

CLAIMS

What is claimed is:

1. An ink-jet printhead comprising:
a substrate which includes an ink chamber where ink is stored, nozzles through which ink in the ink chamber is ejected, and a plurality of pads which apply an electrical signal to the substrate to generate droplets in the ink chamber;
a flexible printed circuit (FPC) cable which includes a conductor corresponding to each of the pads, each conductor having bonding portions at front ends thereof; and
connection members which electrically connect the pads to the bonding portions.
2. The printhead of claim 1, wherein the FPC includes a protection layer, protecting the conductor, having an opening through which the bonding portions are exposed is provided in the protection layer.
3. The printhead of claim 1, wherein one end of each pad of the substrate and one end of each connection member are bonded to each other by hot pressure welding or soldering.
4. The printhead of claim 1, wherein ends of the bonding portions of the FPC and the other end of each connection member are bonded to each other by hot pressure welding or soldering.
5. The printhead of claim 1, wherein each connection member is bonded to one end of each pad of the substrate and ends of the bonding portions of the FPC by hot pressure welding.
6. The printhead of claim 2, wherein one end of each pad of the substrate and one end of each connection member are bonded to each other by hot pressure welding or soldering.
7. The printhead of claim 2, wherein ends of the bonding portions of the FPC and the other end of each connection member are bonded to each other by hot pressure welding or soldering.

8. The printhead of claim 2, wherein each connection member is bonded to one end of each pad of the substrate and ends of the bonding portions of the FPC by hot pressure welding.

9. An ink-jet printhead, comprising:
a substrate including a first conductor having a bonding pad;
a Flexible Printed Circuit (FPC) having a second conductor having a bonding portion corresponding to the bonding pad; and
a connection member, wherein the connection member electrically connects the bonding pad of the first conductor to the bonding portion of the second conductor, and
the connection member is bonded to the bonding pad by hot pressure welding.

10. The ink-jet printhead according to claim 9, wherein the connection member is bonded to the bonding pad and the bonding portion by hot pressure welding.

11. The ink-jet printhead according to claim 10, wherein the hot pressure welding employs a bonding tool and a thermal pressing method.

12. The ink-jet printhead according to claim 9, wherein the FPC comprises a cable surrounding the substrate.

13. The ink-jet printhead according to claim 9, further comprising nozzles on the substrate.

14. The ink-jet printhead according to claim 9, further comprising upper and lower protection layers protecting the second conductor.

15. The ink-jet printhead according to claim 14, further comprising an opening in the upper protection layer through which the bonding portion is exposed.

16. The ink-jet printhead according to claim 9, wherein the connection member is substantially ribbon shaped.

17. The ink-jet printhead according to claim 9, wherein the connection member is perforated.

18. The ink-jet printhead according to claim 9, further comprising a plurality of connection members.

19. The ink-jet printhead according to claim 28, further comprising an insulating connection ribbon to fix the plurality of connection members in a parallel arrangement.

20. A method of fusing a connection member to a bonding pad of a substrate, comprising:

opening an opening in a protective layer above the bonding pad of the substrate; and
hot pressure welding the connection member to the bonding pad of the substrate.

21. The method according to claim 20, further comprising hot pressure welding the connection member to a bonding portion of a Flexible Printed Circuit (FPC).

22. The method according to claim 21, further comprising soldering the connection member to the bonding pad of the substrate and the bonding portion of the FPC.

23. The method according to claim 21, wherein the operation of opening comprises processing by an excimer laser.

24. The method according to claim 23, wherein the processing further comprises varying a pulse of the laser to prevent melting.

25. The method according to claim 23, wherein the processing further comprises using an interruptive method, the interruptive method comprising:

changing a pulse cycle of the laser; and
adjusting a time interval of the pulse of the laser.

26. The method according to claim 20, wherein the hot pressure welding comprises:
pressing a bonding tool on a welding object; and
heating an electrical heating layer in a gap at an end of the bonding tool to
approximately 300 – 500 degrees celcius.